

Comment on “From Search to Match: When Loan
Contracts are Too Long” by Christophe Chamley
and Céline Rochon

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Reallocation is an equilibrium phenomenon. Economic restructuring is ceaseless and is a critical aspect of economic activity. This has been recognized at least since Schumpeter who emphasized the need for constant restructuring and coined the term creative destruction (see, e.g., Schumpeter (1942)). Reallocation is not frictionless however, and the impediments to reallocation and their macroeconomic consequences are studied in a recent and growing literature. Particularly pertinent is the interaction between financing and reallocation, and its effect on business cycle fluctuations and growth.

Chamley and Rochon (2010, this issue of the *JMCB*) consider a model with random matching of banks with loanable funds and entrepreneurs with financing needs. Banks’ incentives to roll over loans instead of liquidating them and freeing up loanable funds for redeployment depend on the ease with which loanable funds can be reallocated to other entrepreneurs. The main result is that there are two steady state equilibria, one with a lot of reallocation and the other with limited reallocation. In a

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steady state with a lot of reallocation, banks always liquidate loans that do not pay off in the short term thus freeing up loanable funds as well as entrepreneurs to look for new opportunities elsewhere. Reallocating loanable funds is beneficial since there are many entrepreneurs with financing needs and hence the probability of finding new borrowers is high. In a steady state with limited reallocation, banks roll over all loans that do not pay off in the short term and thus both loanable funds and entrepreneurs remain tied up. Banks choose to simply roll over debt instead of liquidating projects and reallocating funds because many entrepreneurs are tied up and the probability of finding new borrowers is hence low. The critical assumption is that the matching function displays increasing returns.¹ When a lot on entrepreneurs are looking for loans, the probability of finding a new match is high and banks discontinue projects which are slow to pay off and redeploy the funds, and this in turn frees up entrepreneurs with such projects to look for new funding opportunities themselves. And vice versa, when few entrepreneurs are looking for funds, it is hard to find new borrowers and banks roll over debt and persist with projects that are slow to pay off, and thus many entrepreneurs remain tied up in such projects. The steady state equilibrium with a lot of reallocation strictly Pareto dominates the steady state equilibrium with limited reallocation. The paper is thus Schumpeterian in spirit as an equilibrium in which there is a lot of reallocation is more productive than an equilibrium with limited reallocation. Below I interpret these results in the context of the broader literature on reallocation and on the interaction between financing and reallocation over the business cycle.

1 The Procyclical Nature of Restructuring

Recent evidence on the business cycle properties of capital reallocation suggests that capital reallocation is procyclical. Eisfeldt and Rampini (2006) find that capital

¹The probability of matching with an entrepreneur μ is assumed to be increasing in the mass of entrepreneurs looking for a loan. If the matching function were to display decreasing returns instead, for example due to congestion effects, there might be a unique equilibrium.

reallocation between firms through mergers and acquisitions and asset sales is strongly procyclical. Consistent with these results, Maksimovic and Phillips (2001) document that the number of plants sold is higher in expansion years than in recession years using plant level census data. Labor reallocation turns out to be similarly procyclical, albeit less strongly so. Caballero and Hammour (2005) find that contractions reduce cumulative job reallocation and Eisefeldt and Rampini (2006) document that excess job reallocation is procyclical. The basic picture that emerges from this evidence is that downturns are not times of increased restructuring, but rather that restructuring slows down. In other words, there is more Schumpeterian restructuring in economic expansions than in contractions. This conclusion is in stark contrast to the earlier view that recessions involve a lot of restructuring and have a cleansing effect (see, for example, Caballero and Hammour (1994)).

Chamley and Rochon's steady state analysis cleverly captures the procyclical nature of restructuring. The equilibrium without rollover features a lot of reallocation and higher output, and matches expansionary periods in which both reallocation and economic activity are high. The equilibrium with rollover is characterized by limited reallocation and lower output, and corresponds to contractionary periods in which restructuring slows down and output is low. The model is particularly well suited to understand "lost decade" type episodes, such as the one in Japan in the 1990s. Caballero, Hoshi, and Kashyap (2008) argue that the continued rollover of non-performing loans by Japanese banks depressed restructuring and productivity and prolonged Japan's macroeconomic stagnation which began in the early 1990s. This account is akin to an equilibrium with rollover, and hence limited reallocation, in Chamley and Rochon's model.

The dynamic analysis in the simplified model is a bit harder to map to the data. During normal times, that is, non-crisis times, the measure of loans that are rolled over always increases and the measure of new projects started decreases. In a crisis, there is a spike in liquidations and the economy returns to "normal times." In this sense, crises are cleansing in the model and free up resources for redeployment. Output dynamics

are not explicitly characterized in general, but there are parameters for which output decreases during normal times and jumps up in a crisis. In particular, if the economy jumps to a steady state equilibrium without rollover, output must increase in a crisis. Thus, in the model a crisis is associated with a spike in liquidations, but seems to be followed by an immediate recovery and increase in reallocation. In contrast, in the data, while there might be spikes in liquidations at the beginning of downturns, contractions themselves feature reduced reallocation. In my view, a crisis in the model thus seems a bit more like the end of a protracted downturn and the beginning of the recovery, rather than the beginning of a persistent contraction.

The assumption of increasing returns to matching of banks and entrepreneurs makes the model tractable and drives the multiplicity of equilibria and the procyclical reallocation in the model. It would be interesting to understand why there are increasing returns to matching. In other words, why do reallocation frictions vary with aggregate conditions? Eisfeldt and Rampini (2008) provide one reason why reallocation frictions might vary countercyclically. They argue that when the productivity of assets is private information, reallocation is costly due to managers' informational rents, and higher informational rents in downturns dampen reallocation. But other factors, in particular financial considerations, may also affect the cost of reallocation.

2 Excessive vs. Insufficient Liquidation

In the model, debt financing implies that the bank's payoff is shifted toward the payoffs from rolling over debt. This implies that when project payoffs are private information, an equilibrium without rollover (and hence a lot of reallocation) exists for a smaller set of parameters. The monitoring costs due to Townsend (1979) type costly state verification reduce expected payoffs of projects. Moreover, since it is short term payoffs which need to be verified, the verification costs reduce the short term payoffs relative to the long term payoffs associated with rollover, therefore making rollover relatively more beneficial. Thus, debt financing makes an equilibrium with

rollover more likely, and, since such an equilibrium involves limited restructuring and lower output, leads to insufficient liquidation.

Chamley and Rochon thus challenge the conventional wisdom by arguing that debt financing reduces reallocation and results in a bias toward an inferior equilibrium with insufficient liquidation. A pertinent example is the lost decade in Japan. In contrast, the conventional view is that debt is biased toward liquidation, and hence potentially induces excessive liquidations by forcing fire sales. This interaction of financial distress and the resulting reallocation of capital away from the most efficient user is emphasized, for example, by Shleifer and Vishny (1992), Kiyotaki and Moore (1997), and Rampini and Viswanathan (2010). The resulting effects on asset prices can lead to a pecuniary externality and excessive liquidation, as Lorenzoni (2008) shows. This type of reallocation due to financial constraints seems to be a prominent feature of financial crises. In my view, both phenomena likely play a role. Net worth and financial constraints might force some inefficient reallocation in contractions, while households and firms that are not forced to sell become much more reluctant to do so. The overall effect, in practice, seems to be a reduction in reallocation in contractions.

3 Conclusion

Chamley and Rochon provide an interesting perspective on the dynamics of reallocation with increasing returns in the matching of banks with loanable funds and entrepreneurs with financing needs. The model has two steady state equilibria and is Schumpeterian, because the equilibrium without rollover of debt features more reallocation and higher output. Debt rollover ties up loanable funds and entrepreneurs, and thus reduces the matching activity and reallocation. The paper is thus consistent with the fact that reallocation, especially capital reallocation, is procyclical (see Eisfeldt and Rampini (2006)). The model challenges conventional wisdom by arguing that debt rollover reduces restructuring and might be socially undesirable, whereas

much of the literature argues that debt financing is biased toward liquidation and may force fire sales and result in excessive liquidation. Critical for the conclusion are the assumed increasing returns in the matching function, which imply that more reallocation reduces the reallocation frictions. In my view, understanding why reallocation frictions decrease in times of high reallocation, that is, in expansions, and increase in downturns is an important question requiring further research.

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